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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,704	07/31/2003	Douglas McLaggan	CISCP329/6641	3626

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EXAMINER	
FAROUL, FARAH	
ART UNIT	**PAPER NUMBER**
2616	
MAIL DATE	**DELIVERY MODE**
10/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,704	MCLAGGAN ET AL.	
	Examiner	Art Unit	
	Farah Faroul	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/23/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following Office Action is based on the amendment filed on July 23, 2007 having claims 1-47and figures 1-6.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 11, 26, 34 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5, 11, 26, 34 and 40 recite the limitation "the gateway device" in line 4. There is insufficient antecedent basis for this limitation in the claim. Applicant has recited a first and a second gateway device in the preceding claims. The claim limitation needs to clarify which one of the devices is being referred to.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 7-8, 10, 12-13, 15, 17-18, 22, 24, 28, 30-32, 36-37, 39 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils et al. (US 6,397,260 B1) in view of Datta et al. (US 6,295,276 B1) (both references disclosed by applicant).

For claims 1, 10, 15, 24, 30 and 39, Wils discloses assigning a first plurality of forwarding addresses to a first gateway device (column 6, lines 20-46 wherein all routers are configured with an IP address);

Assigning a second plurality of forwarding addresses to a second gateway device (column 6, lines 20-46 wherein all routers are configured with an IP address);

Changing allocation of the forwarding addresses (column 7, lines 27-43 wherein forwarding addresses may be reassigned between the two routers)

For claims 1, 10, 15, 24, 30 and 39, Wils discloses the entire claimed invention except adjusting the traffic flow.

Datta, from the same or similar field of endeavor, discloses a controller sending inquiry packets to a memory buffer monitoring traffic information to compare past and current load on the router. Datta, further discloses, an ARP responder operating by trapping replies to ARP requests sent to the default gateway and modifying the responses to redirect outgoing traffic data to a selected router (column 15, lines 16-51).

Thus, it would have been obvious to someone of ordinary skill in the art to combine the load-sharing method of Wils and the traffic monitoring method of Datta at the time of the invention. The traffic monitoring method of Datta can be implemented into the network of Wils by monitoring and adjusting traffic in the load-sharing network of

Wils. The motivation to combine is that it provides an efficient load-balancing method in a virtual gateway.

For claims 2-3, 12, 17, 31-32 and 41, Datta discloses the method of claims 1, 10, 15, 30 and 39 wherein each forwarding address is a MAC address and wherein each MAC address is a vMAC address (Figure 3, wherein MAC-MB is the MAC address for router R1 and virtual router B and MAC-MA is the MAC address for router R2 and virtual router A.

For claims 7, 13, 36 and 42, Wils discloses the method of claims 1, 10, 30 and 39 wherein the first gateway device is a first router and the second gateway device is a second router (column 7, lines 30-33 wherein the gateway devices in the redundancy group is router R1 and router R2).

For claims 4, 25 and 33, Wils discloses altering the distribution of forwarding addresses to hosts (column 7, lines 27-43).

For claims 6, 14, 27, 35 and 43, Wils discloses reassigning a forwarding address to a different gateway device (column 7, lines 27-43).

4. Claims 8-9, 22-23, 28-29 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils and Datta as applied to claims 1, 15, 24 and 30 above, and further in view of Shinomiya (US 2003/0037165).

For claims 8-9, 22-23, 28-29 and 37-38, Wils and Datta disclose the entire claimed invention except for wherein the redundancy group is configured to provide failover services in the event that one of the gateway devices ceases operation, wherein

the target traffic flow is equal distribution of traffic across the first gateway device and the second gateway device and further wherein adjusting the traffic flow comprises adjusting the traffic flow across the first gateway device and the second gateway device to more equally distribute the measured traffic flow between the first gateway device and the second gateway device.

Shinomiya, from the same or similar field of endeavor discloses a method involving a virtual router consisting of a master and a backup router wherein flow rate is periodically reviewed so that the plurality of routers operate under equivalent load conditions (paragraph 14, line 1 to paragraph 17, line 10).

Thus, it would have been obvious to someone of ordinary skill in the art to combine the load-sharing method of Shinomiya with the modified system of Wils and Datta at the time of the invention. The method of Shinomiya could be implemented into the modified system of Wils and Datta by adjusting the traffic flow of the modified system. The motivation to combine the load-sharing method of Shinomiya with the modified system of Wils and Datta is that it enables efficient load-sharing in the routing processing (Shinomiya, paragraph 15, lines 4-5).

5. Claims 5, 11, 26, 34 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils and Datta as applied to claims 1, 15, 24 and 30 above;, and further in view of Wu (7,065,043 B2).

For claims 5, 11, 26, 34 and 40, Wils and Datta disclose the entire claimed invention except for altering the distribution of forwarding address to hosts comprises

replying to ARP requests from hosts using the forwarding address having the lowest measured traffic flow on the gateway device having the lowest measured traffic flow

Wu, from the same or similar field of endeavor, teaches a load monitor identifying the gateway device with the lowest workload and connecting to the identified gateway device (Figures 3 and 5, column 4, lines 45-57 and column 5, lines 45-55).

Thus, it would have been obvious to someone of ordinary skill in the art to combine the traffic monitoring method of Wu with the modified system of Wils and Datta at the time of the invention. The traffic monitoring method of Wu is implemented into the modified system of Wils and Datta by using the forwarding addresses to connect to the gateway device with the lowest measured workload. The motivation to combine the traffic monitoring method of Wu with the modified system of Wils and Datta is that it provides an efficient load-balancing system.

Response to Arguments

6. Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farah Faroul whose telephone number is 571-270-1421. The examiner can normally be reached on Monday - Friday 6:30 AM - 4 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firmin Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

F.F.

FIRMIN BACKER
SUPERVISORY PATENT EXAMINER